EXECUTIVE SUMMARY

In January 2000, the Santa Rosa County, Florida Board of County Commissioners established a citizen Task Force to address the issue of Stormwater Runoff's impact on surface water and groundwater. A cross-section of individual citizens with varying backgrounds from across Santa Rosa County were appointed by the Santa Rosa County, Florida Board of County Commissioners to address this growing problem. The objectives of this task force were:

1) **To thoroughly *review the impacts and consequences* of stormwater runoff on the water bodies in and around Santa Rosa County;**

2) **To *mitigate the negative impacts/consequences on both water quantity and quality* as identified;**

3) **To *make recommendations* to the Board of County Commissioners on actions it could undertake to reduce the negative impacts of stormwater runoff;**

4) **To make recommendations to the Board of County Commissioners on the development of *funding sources.***

The Task Force held public fact-finding and self-education meetings between January 2000 and January 2002, during which a series of guest experts, citizens, governmental officials, scientists, and environmental agency representatives presented information to focus the group on stormwater issues and solutions.

In the early stages of the proceedings, the Task Force made certain broad decisions:

1) **Developing a *master plan* was to be the foundation of all other recommendations;**

2) **The master plan would include issues of *accountability, funding mechanisms, and mapping of problem areas;***

3) ***Quantity and quality issues of stormwater runoff* would be addressed;**

4) ***Community education* would be a priority.**

STORMWWATER MASTER PLAN

Although opinions varied widely on a variety of issues, the task force was in total agreement that a Stormwater Master Plan should be Santa Rosa County's first goal in addressing the stormwater issue. After initial deliberation, the task force concluded that any Stormwater Master Plan should consist of a survey of current conditions, a public education program, basin delineation, out-fall locations, and planned improvements. The

Master Plan should provide key elements and supporting documentation for the implementation and compliance with National Pollution Discharge Elimination System (NPDES) Phase II stormwater rules.

The Stormwater Master Plan will be prepared by compiling information that in many cases is already available. The agency or consultant that prepares a Stormwater Master Plan for Santa Rosa County will review available county records, conduct interviews with County staff, review historical data, conduct public workshops and review reports, including the 1980 Santa Rosa County Soil Survey and the Florida Natural Areas Inventory. They will also identify those areas currently flooding and/or likely to flood.

The Stormwater Master Plan should incorporates basin-specific master plans within which they will adopt levels of service for stormwater quantity and quality. In so doing the plan should identify clear and attainable objectives and define how progress toward them will be measured. Consideration should be given to submitting the Stormwater Management Plan, along with its measurable objectives and goals as a component of the County Comprehensive Plan. The final component of the Stormwater Master Plan will be the establishment of a Stormwater Citizen's Advisory Council, which will be responsible for educating the public regarding stormwater.

PUBLIC EDUCATION

In order for any stormwater program to be effective, the public must be informed and engaged, therefore public education will be a high priority. The public education program should be the responsibility of a Stormwater Citizens' Advisory Council, mentioned above. This council could also serve to monitor progress toward established stormwater quantity and quality goals and prepare progress reports. Additionally, education of stormwater pollution issues will be mandatory in that Phase II of NPDES requires implementation of a public education program.

NEW CONSTRUCTION

New construction should ideally mimic the preexisting natural system. Studies have shown that no structural stormwater systems are as effective as natural infiltration. In addition, all new construction should be encouraged to decrease the amount of impervious surface. There is a direct correlation between amount of impervious surface and amount of stormwater runoff. The Task Force recognizes that it is preferable to prevent stormwater runoff problems during new construction to retrofitting completed developments with updated stormwater control facilities. This is because it will always be easier, less costly, and more aesthetically agreeable to ensure effective stormwater control during new construction than later. Whenever structural solutions are implemented, the County should institute a policy of follow up inspections of constructed stormwater management features. Such inspections should be conducted periodically and after severe storm events to ensure proper maintenance and functionality of these facilities.

DESIGN FLEXIBILITY

The purpose of design flexibility is to implement stormwater control and wetland preservation incentives within the context of zoning and development review. The County's current Land Development Code should be amended to include such incentive based approaches as site design encouraging conservation of natural wetlands and more flexible zoning and density standards allowing developers to keep construction out of wetland or flood prone areas.

BUFFER ZONES

This refers to leaving a naturally vegetated or planted buffer strip between wetlands or other water bodies in order to protect them from development. Benefits from buffers include trapping and removing sediment, nutrients and contaminants from runoff, stabilizing stream banks and reducing erosion, reducing property damage by storing flood waters, protecting water quality, and providing wildlife habitat. The stormwater committee recommends that the county reviews its land development code pertaining to buffer zones in environmentally sensitive areas.

IMPERVIOUS SURFACES

Benefits of increasing the area of pervious surfaces may seem intuitively obvious. If rainwater is absorbed into the surface, on which it falls, and does not run off carrying pollutants, then it is not a stormwater runoff problem. The use of porous paving on rights-of-way and light-use roads, grass filter strips, roof gardens, and numerous other inexpensive approaches can greatly reduce the problem of stormwater runoff at the source.

TREE PRESERVATION

Benefits provided by trees include flood control, erosion control, wildlife habitat, water supply protection, pollutant filtering, water and air quality enhancement and increased property values. Studies have also shown the important role that trees perform in stormwater management.

RETROFITTING EXISTING PROBLEMS

Retrofitting is the process of bringing existing developments up to performance levels of stormwater runoff control expected of new construction. Typically retrofitting of stormwater controls is far more costly than implementing such controls in new construction. That is in part due to the fact that existing buildings, roads, bridges, and other structures may render some types of Best Management Practices (BMPs) impractical. However, there are many retrofit solutions, such as adding infiltration trenches and depressed vegetation islands in parking lots that are very effective and relatively inexpensive.

The County should retrofit using natural systems (as above), whenever possible. The finance of these improvements may be accomplished with a system of fees based on total impervious surface, with credit for total area in native vegetation. The Task Force recommends that the County work with the Florida Department of Transportation to correct direct discharge to surface waters. And septic tanks sited in inappropriate soils or too near surface waters with central sewer connections should be replaced.

INCENTIVES

The County should adopt incentives for new developments and for those existing residences, for agricultural operations and for businesses whose properties immediately adjoin water bodies to encourage participation in a program to restore the riparian shoreline, and provide treatment of stormwater from lawns and encourage alternate vegetative plantings of native species, minimizing or eliminating the use of fertilizers for lawns.

PAVING DIRT ROADS

There are thousands of miles of dirt roads in Santa Rosa County. When properly maintained, many sections of these roads contribute very little to our stormwater problems. However, the most serious stormwater problem associated with dirt roads in Santa Rosa County is associated with wetland road approaches. A wetland road approach is defined as a road that approaches creeks, rivers, or other wetland areas, with many of these approaches down slope. The erosion that occurs in these areas accounts for a high percentage of sedimentation and increases county road maintenance costs. Recognizing the stormwater impacts associated with managing dirt roads and the limited funds available to improve them, the Task Force recommends a priority paving system that centers funding initially on the most critical sections of dirt roads, the sections that approach creeks, rivers and wetlands.

AGRICULTURE

The Task Force recommends that the County develop a program that emulates or is in accord with Federal guidance designed to minimize the use of herbicides, pesticides, and fertilizers (nutrients) as part of the County's overall maintenance plan.

NUTRIENT MANAGEMENT

Nutrient Management is managing the amount, source, placement, form, and timing of the application of nutrients and soil amendments.

BUFFER ZONES IN AGRICULTURAL PRACTICES

Buffer Zones are areas of the herbaceous vegetation situated between cropland, grazing land, or disturbed land (including forest land) and environmentally sensitive areas. The use of buffer zones may be applied as part of a conservation management system to

support one or more of the following purposes. Reduction of sediment, particulate organics, and sediment adsorbed contaminant loadings in runoff. Reduction of dissolved contaminant loadings in runoff. Reduction of sediment, particulate organics, and sediment adsorbed contaminant loadings in surface irrigation tailwater. Creation and enhancement of herbaceous habitat for wildlife and beneficial insects. Enhancement of watershed functions.

REVENUE

Revenue requirements to meet adopted levels of service will be established in the Master Plan. A number of funding sources will be considered and evaluated for revenue potential. Funding sources to be evaluated at a minimum shall include grants (private, state, and federal), stormwater utilities, Municipal Service Benefit Units (MSBUs), impact fees, optional sales tax, and ad valorem tax increases. The results of this evaluation should be incorporated into a separate report in the Master Plan, titled "Funding for Stormwater Management". Funding requirements for stormwater will consider operation and maintenance costs, in addition to required expenditures for stormwater capital improvements. As part of the effort to estimate revenue requirements, the County must Identify and provide cost estimates for both structural and nonstructural remedies for water quantity and quality issues in those specific basins.

FUNDING SOURCES

A variety of federal and state programs provide block grant for specific stormwater projects. Federal agencies such as the United States Army Corp of Engineers, United States Department of Agriculture, United States Fish and Wildlife Service, National Oceanic and Atmospheric Administration, Environmental Protection Agency, Department of Transportation, and Department of the Interior may all provide grants for specific stormwater projects. However, these agencies will only provide monies for specific projects and Santa Rosa County staff personnel must invest their time and resources to prepare grant proposals to obtain funding from these various federal agencies in a very competitive environment. It has become apparent to the Santa Rosa County Stormwater Task Force that many of the recommendations made in this document will be useless without a reliable funding source. Based on presentations made to the committee, one of the most reliable sources of revenue appears to be the creation of a stormwater utility. In general a stormwater utility would assess individual residents and businesses a fee based on the amount of impermeable surface that exists on their property. The reduction of impermeable surface area would reduce one's fee and would be an inducement to limit paved areas that create stormwater. Various formulas exist to determine applicable fees and who pays at what rate. The value of a stormwater utility will have to be demonstrated to the public and extensive citizen involvement will be required to arrive at a fair and equitable formula for the assessment of any stormwater fees. Another source of funding is an increase in the countywide sales tax. A portion of the sales tax dedicated to improving stormwater run-off would not require the creation of a new bureaucracy and could be managed by current county staff.